

# Claims

- [c1] A vibration dampening device for engaging to human skin, comprising:  
a patch having a nominal width and a nominal length and defines an outer periphery, and wherein said patch has a body contacting surface and an outer surface; and  
a step member engaged to the patch, wherein said step member has a distal end that extends beyond the outer periphery and has freedom of movement with respect to the patch.
- [c2] The device of claim 1, wherein the step member has two ends and both ends extend beyond the outer periphery of the patch.
- [c3] The device of claim 1, further comprising a second step member engaged to the patch, and wherein said second step member has a distal end that extends beyond the outer periphery.
- [c4] The device of claim 3, wherein the second step member has two ends and both ends extend beyond the outer periphery of the patch.

- [c5] The device of claim 3, wherein the step member defines a center axis along its length and wherein the second step member defines a center axis along its length, and further wherein the step member and second step member are engaged to the patch such that the center axis of the step member and the center axis of the second step member are generally perpendicular to one another.
- [c6] The device of claim 1, wherein the patch defines a slot, and the step member is engaged to the patch by threading it through said slot.
- [c7] The device of claim 6, wherein the patch defines a second slot, and the step member is engaged to the patch by threading it through the slot and the second slot.
- [c8] The device of claim 7, wherein the step member has two ends and a central portion, and further wherein the step member is slidably engaged to the patch such that the distal end and the other end are adjustably extended away from the outer periphery of the patch by sliding the step member within the slot and the second slot.
- [c9] The device of claim 8, wherein a loop is formed in the central portion of the step member.
- [c10] The device of claim 7, further comprising a second step

member engaged to the patch, and wherein said second step member has a distal end that extends beyond the outer periphery, and further wherein the second step member is engaged by threading it between the outer surface of the patch and the step member.

[c11] The device of claim 10, wherein said second step member is adhered to the outer surface of the patch.

[c12] The device of claim 8, wherein at least two loops are formed in the central portion of the step member by threading the step member through the slot and the second slot and over and under the patch.

[c13] The device of claim 1, further comprising one or more wings formed in the outer periphery of the patch.

[c14] The device of claim 13, wherein the wings are formed by slitting through a portion of the patch.

[c15] The device of claim 14, wherein the wings are formed by a series of slits cut through the patch at a corner of the patch.

[c16] The device of claim 13, wherein the patch defines a central portion and the wings have freedom of movement with respect to the central portion.

[c17] The device of claim 14, wherein the patch defines a cen-

tral portion and the slitting does not extend to said central portion.

[c18] The device of claim 13, wherein an adhesive is applied on the body contacting surface at the central portion of the patch.

[c19] The device of claim 1, wherein the patch defines a central portion and the skin-contacting surface at the central portion is constrained from movement with respect to the skin to which the patch is engaged.

[c20] The device of claim 1, wherein the step member has a length and defines a center axis along its length, and further comprising an extension appended to the distal end of the step member.

[c21] The device of claim 20, wherein the extension has two ends and defines an axis along its length, and wherein the extension is appended to the distal end of the step member such that the axis of the extension is substantially perpendicular to the center axis of the step member.

[c22] The device of claim 20, wherein the step member defines a width and the extension member has two ends, and further wherein the ends of the extension extend beyond the width of the step member.

- [c23] The device of claim 20, wherein the step member has two ends and has an extension appended to each end.
- [c24] The device of claim 1, wherein the step member has a length and defines a center axis along its length, and wherein the patch defines a central opening formed therethrough, and further comprising an extension appended to the step member at a position along its length.
- [c25] The device of claim 24, wherein the extension is appended to the step member such that the extension is held within the central opening formed through the patch.
- [c26] The device of claim 25, further comprising a plurality of central openings formed through the patch, and a plurality of extensions appended to the step member such that said extensions are held within the central openings in a one to one relation.
- [c27] The device of claim 24, wherein the extension defines a center axis along its length and said extension is appended to the step member such that the center axis of the extension is generally perpendicular to the center axis of the step member.

- [c28] The device of claim 24, wherein the extension has a body contacting surface and is formed to have a simple geometric shape selected from the group consisting of: square, rectangle, triangle, oval, and circle.
- [c29] The device of claim 25, wherein the extension has length and width dimensions that are less than the dimensions of the central opening in the patch.
- [c30] The device of claim 24, wherein the extension is appended to the step member with adhesive.
- [c31] The device of claim 24, wherein the step member is engaged with adhesive to the outer surface of the patch at selected points of contact.
- [c32] The device of claim 1, wherein the adhesive is a pressure sensitive adhesive removably attachable to human skin.
- [c33] The device of claim 1, wherein the step member comprises a viscoelastic material having a density in the range of 7 to 15 pounds per cubic foot, a tensile strength from 40 to 80 psi and a minimum elongation of 100%.
- [c34] The device of claim 33, wherein the viscoelastic material has a compression deflection at 25% of from 3 to 10 psi.
- [c35] A vibration dampening device for engaging to human

skin, comprising:

a patch defining an outer periphery and a central portion, wherein said patch has a body contacting surface and an outer surface, and wherein at the central portion the body contacting surface is constrained from movement relative to the skin to which the patch is engaged;  
one or more wings formed in the outer periphery of the patch.

[c36] The device of claim 35, wherein said wings are formed by slitting through a portion of the patch.

[c37] The device of claim 36, wherein the wings are formed by a series of slits cut through the patch at its outer periphery.

[c38] The device of claim 35, wherein the patch further defines an opening formed therethrough at the central portion of the patch.

[c39] The device of claim 38, further comprising second wings formed by slitting through a portion of the patch at the opening.

[c40] The device of claim 39, wherein the second wings are formed by a series of slits cut through the patch at the opening.

[c41] The device of claim 35, wherein the patch is formed to have a simple geometric shape selected from the group consisting of: square, rectangle, triangle, oval, and circle.

[c42] The device of claim 35, wherein a pressure sensitive adhesive removably attachable to human skin is applied to the body contacting surface of the patch at the central portion.

[c43] A method for dampening vibration of soft tissue or musculature of a human wearer's body part, comprising:  
providing a vibration dampening device for engaging human skin in the form of a patch, said patch having a nominal width and a nominal length and defining an outer periphery, and wherein said patch has a body contacting surface and an outer surface, and wherein a step member with a distal end is engaged to the patch so that the distal end extends beyond the outer periphery of the patch; and  
removably engaging the device to the body part.

[c44] The method of claim 43, wherein the patch is applied to a body part selected from the group consisting of: finger, hand, wrist, forearm, upper arm, foot, ankle, lower leg, thigh, buttock, torso,



neck, shoulder blade, upper back, lower back, waist, and stomach.

[c45] The method of claim 43, wherein the step member has two ends and both ends extend beyond the outer periphery of the patch.

[c46] The method of claim 43, further comprising a second step member engaged to the patch, and wherein said second step member has a distal end that extends beyond the outer periphery.

[c47] The method of claim 46, wherein the step member defines a center axis along its length and wherein the second step member defines a center axis along its length, and further wherein the step member and second step member are engaged to the patch such that the center axis of the step member and the center axis of the second step member are generally perpendicular to one another.

[c48] The method of claim 43, wherein the patch defines a slot, and the step member is engaged to the patch by threading it through said slot.

[c49] The method of claim 48, wherein the patch defines a second slot, and the step member is engaged to the patch by threading it through the slot and the second

slot.

- [c50] The method of claim 49, wherein the step member has two ends and a central portion, and further wherein the step member is slidably engaged to the patch such that the distal end and the other end are adjustably extended away from the outer periphery of the patch by sliding the step member within the slot and the second slot.
- [c51] The method of claim 43, further comprising one or more wings formed in the outer periphery of the patch.
- [c52] The method of claim 43, wherein the wings are formed by a series of slits cut through the patch at its outer periphery.
- [c53] The method of claim 43, wherein the step member has a length and a width and defines a center axis along its length, and further comprising an extension appended to the distal end of the step member, wherein at least one end of said extension extends beyond the width of the step member.
- [c54] The method of claim 43, wherein the step member has a length and a width and defines a center axis along its length, and wherein the patch defines a central opening formed therethrough, and further comprising an extension appended to the step member at a position along

its length.

- [c55] The method of claim 54, wherein the extension is appended to the step member such that the extension is held within the central opening formed through the patch.
- [c56] The method of claim 43, wherein a pressure sensitive adhesive that is removably attachable to human skin is applied to the central portion of the patch on the body contacting surface causing the patch to be removably engageable to the body part.
- [c57] The method of claim 43, wherein the step member comprises a viscoelastic material having a density in the range of 7 to 15 pounds per cubic foot, a tensile strength from 40 to 80 psi and a minimum elongation of 100%.
- [c58] A method for dampening vibration of soft tissue or musculature of a human wearer's body part, comprising: providing a vibration dampening device for attaching to human skin in the form of a patch, said patch defining an outer periphery and a central portion, wherein said patch has a body contacting surface and an outer surface, and wherein said patch has one or more wings formed in the outer periphery of the patch; and

removably attaching the device to the body part such that said wings have freedom of movement with respect to the central portion of the patch.

- [c59] The method of claim 58, wherein the patch is applied to a body part selected from the group consisting of: finger, hand, wrist, forearm, upper arm, foot, ankle, lower leg, thigh, buttock, torso, neck, shoulder blade, upper back, lower back, waist, and stomach.
- [c60] The method of claim 58, wherein the wings are formed by a series of slits cut through the patch at its outer periphery.
- [c61] The method of claim 58, wherein the patch further defines an opening formed therethrough at the central portion of the patch.
- [c62] The method of claim 61, further comprising second wings formed by a series of slits cut through the patch at the opening.
- [c63] The method of claim 58, wherein the patch is formed to have a simple geometric shape selected from the group consisting of: square, rectangle, triangle, oval, and circle.
- [c64] The method of claim 58, wherein a pressure sensitive adhesive that is removably attachable to human skin is

applied onto the body contacting surface of the patch at the central portion.